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## VIA ELECTRONIC FILING

Marlene H. Dortch, Secretary  
Federal Communications Commission  
443 12<sup>th</sup> Street, S.W.  
Washington, D.C. 20554

Re: Petitions Regarding the Use of Signal Boosters and Other  
Signal Amplification Techniques Used with Wireless Services  
WT Docket No. 10-4

Dear Ms. Dortch:

This letter is written on behalf of Wilson Electronics, Inc. ("Wilson") for the purpose of summarizing and clarifying its technical position concerning the use of cell phone boosters in CMRS and PCS networks. Wilson has been studying the problems reported by the carriers associated with these devices for five years.

Wilson has been in contact with AT&T, Verizon and Sprint/Nextel to understand their concerns. Simply stated, the carriers' primary concern is harm to their networks. Wilson acknowledges that in the past, on rare occasions, there have been reports of adverse network effects associated with boosters. To put the problem into perspective, at present there are over a million boosters in operation in the United States. We estimate that annually approximately one hundred network effecting complaints are received from the carriers by all booster manufacturers combined. In spite of this manifestly small number of complaints, Wilson is sympathetic to the carriers' concerns and wishes to propose the following set of rule changes which will solve all previously documented problems and eliminate the sale of low quality boosters with their potential attendant network affecting problems.

- **Grandfather Deployed Boosters:** Since it is impossible to locate previously sold signal boosters, Wilson proposes that the Commission grandfather all such boosters and mandate that after a date certain all newly sold boosters must comply with all existing applicable rules strengthened by the additional rules outlined below.

- **Standards Compliance:** Wilson proposes that the Commission mandate that all boosters meet all existing applicable rules and industry standards for cell phones for those modes they support (CDMA, GSM, PCS, WIMAX, LTE, etc.).
- **Booster Oscillation:** When antennas are improperly oriented, some boosters have been known to oscillate, causing problems for a cellular base station. In order to prevent this from happening, Wilson proposes that the Commission should require all boosters to contain integrated oscillation detection technology, which will shut down the booster within 100 milliseconds from the start of oscillations. If this is implemented, oscillations will cause no harm to cellular networks.
- **Noise Floor Increase by Boosters in Close Vicinity of Cell Sites:** Some carriers have asserted that 15 boosters at a distance of a mile from a base station should not increase the base station noise floor by more than 1 dB. Wilson accepts these criteria and proposes an even more conservative approach. We propose that the Commission adopt a rule which mandates that a single booster will never increase the noise floor more than .07 dB. As an example, properly designed forward link sensing coupled with automatic power control can achieve this objective.
- **Cellular Base Station Overload:** Boosters without proper gain control can cause overload and interference to cellular base stations when they are in close proximity of the base station. Wilson proposes that the Commission require boosters to contain integrated automatic power control and power sensing to protect against base station overload. (See also Standards Compliance above.)
- **Adjacent Channel Interference:** Some carriers have voiced concern about interference caused by a booster when a subscriber is far from the base station providing cellular service, but near a base station of a different wireless service provider using an adjacent frequency block. Wilson acknowledges that this as a potential issue, but is certain that the adoption of the proposed Standards Compliance rule will solve the problem.
- **Roaming:** Some carriers have expressed concern as to the problems associated with boosters as they roam. Since Wilson is proposing that all boosters meet all existing rules and exceed applicable industry standards for cell phones, Wilson sees no possibility of roaming problems beyond those caused by accepted cell phones.
- **Carrier Booster Shut Off:** Some Carriers have insisted on the ability to shut off individual boosters that they determine are causing network problems. Wilson believes in the light of the rules it is proposing such a capability is unnecessary and costly. However, if such a belt and suspenders approach aids the Commission to expeditiously move forward, Wilson is willing to accept a rule which mandates that boosters incorporate a capability to allow the carriers to shut them off if they cause problems. Wilson urges the

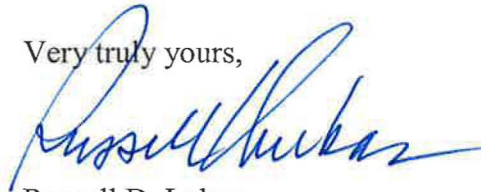
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Commission not to specify the method to be used, but accept any technically viable and economically reasonable approach. Also, the carriers should be allowed to decide if they want to implement this capability or not.

Wilson is convinced that implementation of the above proposals will address all previously identified technical issues concerning the use of boosters including improper installation. It will allow those consumers who rely on boosters to maintain their wireless lifeline and have more technologically advanced devices available to them in the future. It will allow the hundreds of government agencies which employ boosters to continue to use them to protect life and property. Additionally, it will advance the Commission's rural broadband goals. And finally, it will allow booster users to continue to benefit from future technological advances.

We respectfully suggest that the Commission include the rules proposed herein as its tentative finding in its upcoming rule making. Wilson is committed to continue to work with the major carriers to refine these proposals if necessary. To this end, Wilson will be shortly calling a meeting of all the major carriers (Verizon, AT&T, T-Mobile and Sprint/Nextel) to discuss these important issues. The Commission is welcome to send representatives to this meeting to observe and or participate. We will notify the Commission and the carriers as to the date and location of the meeting.

Very truly yours,



Russell D. Lukas

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